CLASSIFICATION CONFIDENTIAL SECURITY INFORMATION
CENTRAL INTELLIGENCE AGENCY

INFORMATION REPORT

REPORT NO [redacted] 25X1
GUIDE 33
CD NO.

COUNTRY Hungary

DATE DISTR. 2 NOV 1953

SUBJECT The Status of Hungarian Railways and Railway Facilities

NO. OF PAGES 7

PLACE ACQUIRED [redacted] 25X1

NO. OF ENCLS. (LISTED BELOW)

DATE ACQUIRED BY SOURCE [redacted] 25X1

SUPPLEMENT TO REPORT NO.

DATE OF INFORMATION

THIS IS UNEVALUATED INFORMATION

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Contents:

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I. Repair Shops and Roundhouses

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1. Szekesfehervar

a. In 1938 the Hungarian Government purchased the Austrian Railway, DSZAV (Danube Save Adriatic Railway). Several Hungarian engineers were assigned the project of converting Austrian rolling stock and equipment and adapting it to the Hungarian Railway pattern. Szekesfehervar roundhouse and repair shops [redacted] during the following five years I visited the area upon a number of occasions.

b. The roundhouse was comparatively large, and as I can recall, it could house as many as twenty locomotives at one time. 25X1

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c. The main repair shop for Southwestern Hungary in 1945 was located at Szekesfehervar. It could handle general repair on any of the Hungarian rolling stock.

d. By 1945 Szekesfehervar had become the major railway junction for Southwest Hungary. Three important railway lines carried the traffic through Szekesfehervar. These were as follows:
   (1) A main line from Szekesfehervar to Budapest via Martonvasar. The rails were for heavy duty and were laid specifically for fast trains.
   (2) A line for light rolling stock was laid to Budapest via Bicske.
   (3) The third line served Komarom, Gyor and Kisber.
   (4) A less important line linked Veszprem and Siofok.

e. Incidentally a small plant which produced acetylene gas was located on one of the rail sidings one-half kilometer from the repair shop. The Hungarian State Railway utilized the acetylene gas for lighting purposes. In order to provide light for passenger and pullman cars, tanks were mounted under the bodies of such cars. The tanks were of three sizes - three, five and fifteen cubic meters. I have mentioned this plant because I know that it didn't suffer from bombings during World War II. The Hungarian State Railway has since 1940 converted from acetylene to butane, but in 1945 a number of the passenger cars were still using acetylene for lighting purposes.

f. It must be remembered that the Szekesfehervar railroad facilities are particularly important to Southwest Hungary, for this junction, in addition to providing an adit from Western Europe by rail, also serves as a marshalling area for the agricultural produce and livestock of Southwest Hungary.

2. Istvantelki Fomuhely

a. Istvantelki Fomuhely was in 1945 the largest repair shop in operation by the Hungarian State Railway. It is located on the outskirts of Budapest between the capitol city and the large suburb, Ujpest.

b.

c. We did considerable new construction at Istvantelki Fomuhely between 1940 and 1943. The shops were well equipped with furnaces, steam, electric and hydraulic hammers and tools. It was considered the best equipped railroad repair works in all of Hungary. In addition to actual repair and construction of new equipment we carried on constant research and development projects in all phases of railroad equipment and operations.

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d. Prior to World War II the personnel was approximately 3300 but was expanded to 4500 during the war. /These figures are representative of the administration, the repair and maintenance people who worked at these repair shops./

e. With reference to new construction we averaged three new passenger cars per month.

f. In rebuilding rolling stock, we were able to do 85 to 90% of the necessary work. This was the usual amount of repair, that is to say, the rolling stock was almost worthless when we received it. As I recall, we rebuilt from 125 to 130 freight cars per month.

g. Practically all repair necessary on railway oil tankers was effected at Istvantelki Fomuhely. Further, most railway tank cars were built at this installation. We had all the required tooling for tank car construction, steel rolls, welding equipment, riveting machines and presses. All replacement parts for tank cars were stored at Istvantelki Fomuhely and shipped to other junctions and repair shops when requested by them.

h. Istvantelki Fomuhely didn't produce new locomotives but did do repair work or modify them whenever alteration or change was directed by the State Railway.

i. We built oil tank cars in three sizes, 10 tons, 15 tons and 20 tons. In 1943 [redacted] we had begun to build 30-ton tankers.

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j. I stated that these shops were the largest in Hungary. They covered an area about five kilometers long and approximately two and one-half kilometers wide. The main building was a two-story affair with steel framing and brick walls. Actually all of the buildings had steel framing. During World War II the Allies bombed Istvantelki Fomuhely. About 50% of the appurtenances were destroyed, but I do recall that the steel framing of the buildings remained erect.
   (1) The machine shop; perhaps the most important section of Istvantelki Fomuhely, was untouched. I recall, however, that USSR mortars did make hits in two or three spots but did relatively minor and inconsequential damage.

(2) The passenger and freight car repair section was demolished, to the extent of approximately 90%.
(3) Approximately 50% of the locomotive repair section was destroyed.
(4) When the forces of the USSR took over the Budapest area they gave priority to the repair of Istvantelki Fomuhely. in Hungary in 1947 that repair effected by the Soviets, who utilized Hungarian personnel, had returned the installations to an almost normal capacity (I cannot say, however, that the repair was 100% completed).

k. The repair shop had one incoming track and one out going track. The incoming track branched out into five main arteries plus a sixth artery used exclusively for passenger car repair. There was a total of 40 separate tracks inside these repair shops.

l. The importance of Istvantelki Fomuhely can best be expressed as follows: if it were not functioning, 60% of the rolling stock of all Hungary would suffer for this is the only shop in Hungary which can effect major repairs on locomotives and rolling stock over 15 tons in weight. Heavy lift equipment consists of a 60-ton electric lift which was used for elevating locomotives, and a 35-ton electric lift (we reinforced this lift so that 40 tons could be elevated) which was used in the passenger and freight car section of Istvantelki Fomuhely.

m. Near Istvantelki Fomuhely is located one of the only two oxygen plants in Hungary. The output of this plant in 1945 was 30 cubic meters per hour. The plant was operated by eight men who were employees of the Hungarian State Railway. The oxygen derived from the installation was used primarily by the railways and the army. I know for certain that 30% of all oxygen produced in Hungary came from this source. [Source states that the oxygen plant was intact and in no way damaged during World War II.] Incidentally, 50% of all oxygen consumed by Hungarian industry was purchased in Vienna, Austria up to 1945. I can recall that we received occasional shipments from Vienna.

3. Ferenc - Varos: The Northern repair shop (Eszaki Fomuhely).

a. There was a large repair shop at Ferenc-Varos, also near Budapest. In fact it was the third largest in Hungary.

b. This installation had the facilities to repair one particular type of steam driven locomotive, all types of electrically driven locomotives, freight cars and tankers. (Incidentally this was the only repair shop in Hungary specifically equipped to repair electric locomotives.)

c. In car repair, Eszaki Fomuhely consistently turned out more repaired freight cars per month than any other shop.

4. Szombathely:

a. The repair shops at Szombathely are about the same size as those at Szekesfehervar.

b. The repair facilities were designed for smaller rolling stock such as the small Hungarian locomotives and freight and passenger cars with less than 15-ton capacity.

c. The Germans, who considered Szombathely extremely important to their military program, took over control and administration of this center.

5. Debrecen:

a. The second largest railroad junction and railway center in Hungary is located at Debrecen.

b. The number of workers at the repair shop during World War II was approximately one thousand (complement now unknown to source).

c. The repair shop is located at the edge of the city in the Southeastern sector. This shop is about four kilometers square.

d. It has one incoming track and one outgoing track. Inside the shop the total amount of tracks with all arteries is 24.

e. The work at the Debrecen shops is essentially concentrated in repair of rolling stock and body construction.

f. The bodies manufactured are of two categories ; both passenger car and freight car bodies are turned out.

g. Although Debrecen was well equipped with tools, it couldn't be compared to the shops at Istvantelki Fomuhely.

h. I might mention the general organization of the shop at Debrecen for it is representative of all the larger shops in Hungary.

(1) The Administration Departments The Chief of this department was Gyula Komaras, who is now deceased. From what I have heard Genessy Sandor is now (September 1953) Chief Administrator of the shops.

(a) Genessy Sandor should be about 55 years of age. He is a graduate of Joseph University, Budapest. I believe the year of graduation was about 1926. Sandor is a good railway technician, is bright and exercises good judgment. He has a strong forceful personality. He is married and has a grown daughter. he was Chief of the passenger and freight car section. As I recollect, when the USSR forces entered Debrecen, Sandor left for some unknown destination. in 1945 that Sandor returned to Debrecen seven or eight months later. I cannot believe that he has fully accepted the Communist Party line but that in all probability he has gone along with the Communists as a matter of expediency. He does possess a certain cleverness which should invite caution when dealing with him.

(b) The Chief is responsible for repair construction and maintenance as well as research and design. He is also in charge of the other departments.

(2) The Auditing and Accounting Departments

(a) This department handles the personnel records which includes salaries and wages.

(b) All auditing for the shops is handled in this section.

(3) Machinery Departments The top man in this department, of course, is a qualified engineer.

(4) Locomotive Repairs This department in 1947 was supervised by Benedek Sandor. (I know that he is no longer there but don't know his present whereabouts.) He is probably 57 years of age now (September 1953). Although he has a fair technical background, Benedek is a rather superficial personality. he had many political affiliations which he always relied upon. Benedek, prior to USSR occupation, was a member of the Hungarian Peasant Party.

(5) The Repair Shop for Passenger and Freight Cars.

(6) By 1945 a sixth department was added. It was referred to as the maintenance department (I cannot describe its functions

i. The shop at Debrecen was able to rebuild five large passenger cars or 10 small passenger cars per month.

j. The repair of passenger cars amounted to 25 per month.

k. From 15 to 20 freight cars were rebuilt per month and from 100 to 110 freight cars were repaired during the same period.

l. The freight car bodies built at Debrecen were of three sizes:

(1) The capacity of the smallest was 10 tons.

(2) 15-ton freight cars. (Most of the freight cars utilized on Hungarian railways averaged 15 tons.)

(3) The largest freight cars up to 1945 were of 20-ton capacity.

m. Consequently that same year we came out with a 25-ton size. Production in large volume of the 25-ton size didn't get underway until 1949.

n. During World War II tanker repair got underway. From three to four tankers per month were repaired. Tank repair facilities and equipment were excellent. We could repair the tank shells and as I recall our pressure equipment utilized in testing tanks was very good.

o. Debrecen also possessed facilities for repairing the trucks of rolling stock. This repair included work on the axles, springs, bearings and wheels.

p. The shops at Debrecen suffered critical damage from USSR assault and Allied bombings. By 1949, however, they were operating at 100% capacity and efficiency. (The functions of this shop were impeded about 67% by the World War II damage.)

q. Some of the finer precision tools for Hungarian railway work were located at Debrecen. There was one machine in particular which I feel is worthy of mention. It is a machine turret affair which contains a large press and a machine lathe. It could press the outer flanges of wheels for locomotives. This press could, of course, press up to 1.8 meters in diameter with precision. It was calibrated to a precision of 1/1000 of an/mm(I don't know the English name for this machine but recall that in Hungarian we called it a merry-go-round lathe and press).

II. Railroads and Double-Track Roadbeds

There were very few double-track roadbeds in Hungary in 1945. I can, however, recall and describe the following ones:

a. Vienna-Gyor-Budapest was double tracked the entire distance between the above junctions. This roadway and roadbed were in excellent condition. Heavy duty rails had been laid for high speed. Incidentally this was the only railway line in all Hungary which was electrified the entire distance. Locomotives were permitted to travel over it at 120 kms per hour [75 mph] and were permitted to pull freight cars with a maximum load weight of 40 tons per car. The line was used by both passenger and freight trains. Since this line was one of the busiest in the entire country, all operations in signaling were electrically devised and controlled. We utilized a block system which operated at maximum intervals of seven minutes [sic]. Electricity utilized along this railway was 50 cycles so that any of the Hungarian power stations were able to feed into the Hungarian Railway power lines through transformers. Electrification of the Vienna-Gyor-Budapest line began in 1935 and was completed in 1937.

b. The line from Budapest to Hatvan is double tracked the entire distance. Top speed over this line in 1945 was 80 kms per hour [50 mph]. Loads of maximum weights were hauled over this roadbed for it was in excellent condition. From Hatvan to Miskolc there was only single tracking in 1945. But from Miskolc to Kassa [sic] double track had been laid for the entire distance.

c. The line from Hatvan to Kassa was badly damaged by bombing during world war II. However, the Soviets rebuilt the entire line from Budapest to Hatvan to Miskolc to Nyiregyhasa to Ungvar [sic]. The line is now double tracked between all of the above points. It is not electrified, however, being constructed for only steam powered locomotives. Work was completed on this line by the USSR in 1948.

d. Budapest-Cegled-Szolnok. This railway line was badly damaged during World War II, particularly around Szolnok. It was fully repaired by 1948 and was in good condition - only steam driven locomotives operate on the above lines which are double tracked along the entire route.

e. There is double track from Miskolc to Banoc [sic], only steam driven locomotives used. They cannot travel over 60 kms per hour because the gradients are steep and curves not properly banked. Locomotives attempting speeds in excess of 60 kms per hour [37½ mph] overturned a number of times.

f. Budapest-Ujszasz-Szolnok. This railroad is double track, but actually it never been in good condition for it has served primarily as a secondary or branch line. It is used chiefly for the hauling of sugar beets.

g. Incidentally, if my memory doesn't fail me, all of the railway lines in Hungary were standard gauge, that is four feet nine inches wide [1945].

III. Manufacture of Locomotives

a. The Hungarian State Locomotive Factory located at Budapest on Soroksari ut and Kobanyai ut is devised for the construction of steam-driven locomotives. It was equipped to produce two types of locomotives:

(1) Type 328 was designed for high speed. This locomotive could draw 32 axles at 85 kms per hour [53 mph]. It was used for both freight and passenger hauling with emphasis upon the latter. In passenger work the 328 was not permitted to exceed the maximum of 95 kms per hour [60 mph]. [Source unable to speak adequate English, could not make clear whether he meant 16 cars or 32 cars when he used the expression "32 axles".]

(2) Type 324 - designed for heavy loads. It could draw 52 axles at 75 kms per hour [47 mph].

(3) This shop also turned out another engine the 324. This locomotive could draw 60 axles at 50 kms per hour [31¼ mph].

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b. Electric Locomotives - We had in operation only one type of electric locomotive. It was named, after its inventor, Kando Kalman. The plant which produced the Kando Kalman was located at Ganz in the suburbs of Budapest. The Kando Kalman electric locomotive was produced in two serial sequences: one engine was designed for high speed and light hauling. The other was manufactured for low speed and heavy hauling. The faster locomotive's top speed was 100 kms per hour /62½ mph/. The slower locomotive's top speed was 75 kms per hour /47 mph/.

IV. Pullman Cars (Sleeping Cars)

a. Pullman cars could be drawn over any of the aforementioned double-track lines without any alteration of tracks or wheels. I can recall, however, that in 1945 the lines between Debrecen and Fuzesabony were considered unsafe with reference to use of pullman cars. The locomotive had to reduce its speed to 10 kms /five and one-half mph/ because of the extremely sharp curves. The radius of these curves at a number of points was less than 200 meters. Incidentally, a minimum of 200 meters radius is required as suitable for the use of the Hungarian pullman cars, in negotiating curves with safety.

b. Pullman cars cannot be drawn over the rails south of Egyek /sic-Egyek?/. The curves in this area are far too sharp.

V. Marshalling Yards - The following focal points can be considered marshalling yards for they each possess large railway sidings, storage facilities and personnel who can transfer loads from one train to another. These points are Szek /sic/, Hatvan, Szolnok, Debrecen, Bekescsaba, Szeged, Pecs, Dombovar, Koposvar /sic/, Vesprem, Gyor and Komarom.

VI. Available Rolling Stock, 1945 or later

a. In 1945 there were 28 electric-driven locomotives in Hungary. That same year /1945/ the Hungarian State Railway laid plans for the construction of 12 more. I learned later that six of the projected 12 had been constructed. (I learned in 1950 [redacted] that the above had taken place.)

b. I would estimate that there were either 40 or 42 steam driven locomotives of the 338 series or type.

c. There were about 18 steam driven locomotives of the 424 series. When I left in 1945, 14 more 424s were under various phases of construction and were being built solely for export to the USSR. (I can add nothing to the above information.)

d. Totaling the various sizes of freight cars in actual operational condition in 19[redacted] I would say that there were about 40,400.

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e. With reference to railway tank cars a safe estimate would be somewhere between 400 to 450.

VII. Signals and Switches

a. There is automatic signaling equipment between the major western junctions. I can recall definitely that in 1945 electrical equipment was used between
(1) Gyor and Komarom.
(2) Budapest and Szekesfehervar.
The Hungarian railway officials were very well pleased with the performance of the electric equipment and controls used at the above points. The system itself was not an Hungarian innovation but was purchased from Germany. This was the popular Siemens-Halske system.

b. Only mechanical signaling apparatus was utilized elsewhere in Hungary.

c. Switches are manually operated. Each of the switches is locked and sealed. Should it be necessary for a trainman to break one of these seals, according to Hungarian law, he must write an official letter explaining why the seal had to be broken. Seals for these switches are in the possession of station masters who are the only ones permitted to either possess the seals or to replace them whenever they have been broken.

d. Dispatchers of the junctions maintain contact with each other by telephone. Between Budapest, Beli Pu Palya /sic/and Udvar, and between the towns of Budapest, Nagykanisza and Keszthely telephonic communications are so devised, automatically, that all station telephones are immediately cut in. Each railway point along the entire route can hear the conversation which transpires among any of the station masters who originate calls.

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e. A separate automatic telephone system was utilized by the Hungarian State Railway. It was in operation in 1945. This system was entirely divorced from the commercial facilities of the state communications system. The control for this system was located at Budapest from which point underground cable was laid in all directions to the larger cities in Hungary. It was, of course, owned and used exclusively by the Hungarian State Railways. I can recall that during World War II when Soviet troops surrounded Budapest [redacted] The Soviet troops had cut all lines of communications around Budapest but apparently they were not aware that the above telephonic equipment existed. Subsequently the major cities such as Debrecen, Szombathely and others were able to converse with Budapest for approximately two months before they were detected by the Soviets.

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f. The standard operating procedure regarding station to station contact in Eastern Hungary was by telephone. Each of the major stations had its own switchboard. The major stations with switchboards served as relay stations for the smaller junctions. Thus, if a minor railway point wished to make telephonic contact with any point, its calls had to be relayed through the major railway station nearest it.

VIII. Status and Condition of Hungarian Rolling Stock

a. I can recall that [redacted] remove from operation approximately five per cent of the rolling stock for unexpected repairs each month.

b. For anticipated and planned repair we removed from operation anywhere from 25 to 30% per month. /According to source, the figures in a. and b are representative of all types such as freight cars, passenger and pullman cars, locomotives and tankers/

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c. Even before World War II began Hungary was in need of rolling stock, there was a constant shortage.

d. [redacted]

e. To operate effectively and be considered in good shape the Hungarian railways need a minimum of 50 thousand freight cars above 15-ton capacity per car and at least 10 thousand passenger cars. I might add that shortage of locomotives was constant.

/The initials MAV appear on all Hungarian rolling stock. This is the Hungarian abbreviation for "Hungarian State Railway"./

- end -

ENCLOSURE (A): Detailed Drawing Prepared by Source of Mav Istvantelki Fomuhely Showing Location of Repair Shops, Rail Sidings, Power House, Passenger and Freight Car Section, Machine Shops, etc.

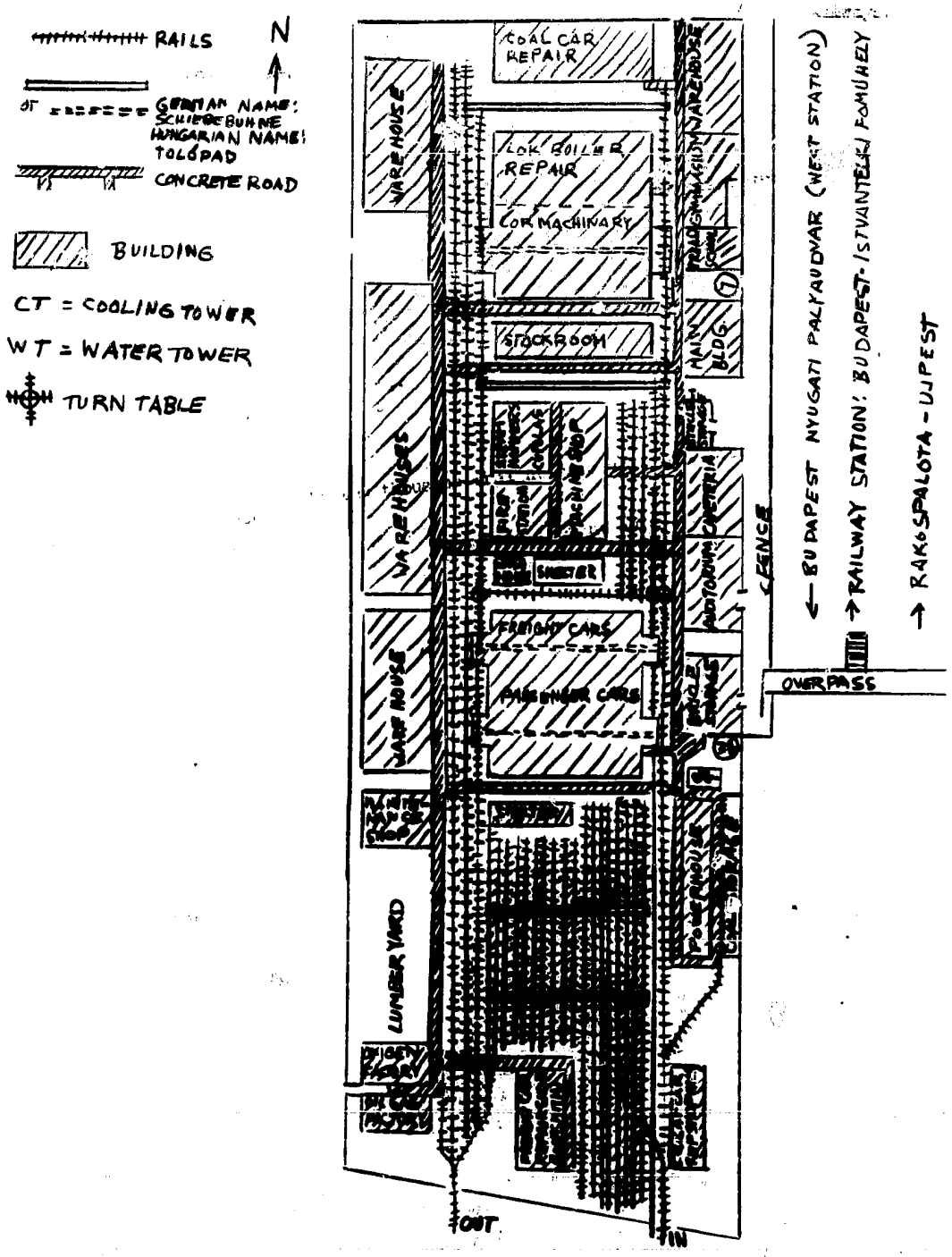
(B): Detailed Drawing Prepared by Source of Szekesfehervar Mav Muhely Showing Location of Repair Shops, Rail Sidings, Power House, Passenger and Freight Car Section, Machine Shops, etc.

(C): Detailed Drawing Prepared by Source of Debrecen Mav Muhely Showing Location of Repair Shops, Rail Sidings, Power House, Passenger and Freight Car Section, Machine Shops, etc.

755.34 37M
755.211 37M
755.311 37M
755.42 37M
755.321 37M
755.322 37M
755.012 37M
755.31 37M

ENCLOSURE (A) SECRET/SECURITY INFORMATION

DETAILED DRAWING PREPARED BY SOURCE OF MAV ISTVANTELKI FOMUHELY SHOWING LOCATION OF REPAIR SHOPS, RAIL SIDINGS, POWER HOUSE, PASSENGER AND FREIGHT CAR SECTION , MACHINE SHOPS, ETC



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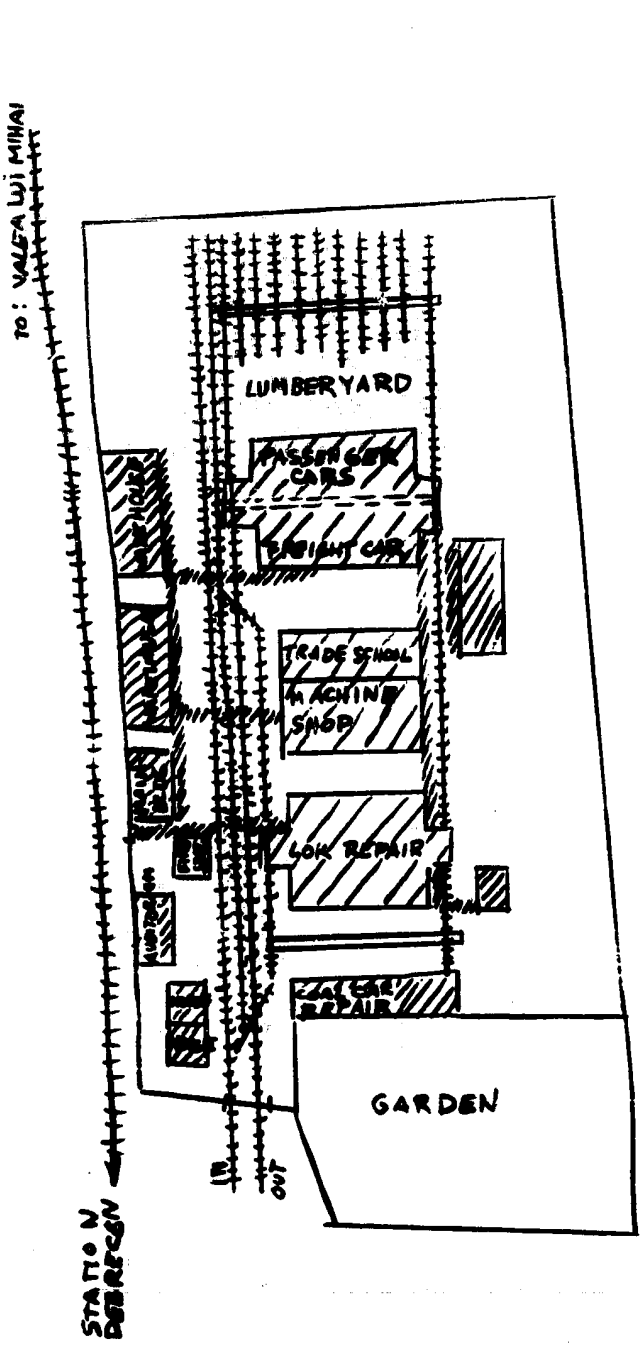
ENCLOSURE (B)

SECRET/SECURITY INFORMATION

DETAILED DRAWING PREPARED BY SOURCE OF SZEKESFEHERVAR MAV MUHELY SHOWING LOCATION OF REPAIR SHOPS, RAIL SIDINGS, POWER HOUSE, PASSENGER AND FREIGHT CAR SECTION, MACHINE SHOPS ETC.



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ENCLOSURE (C)

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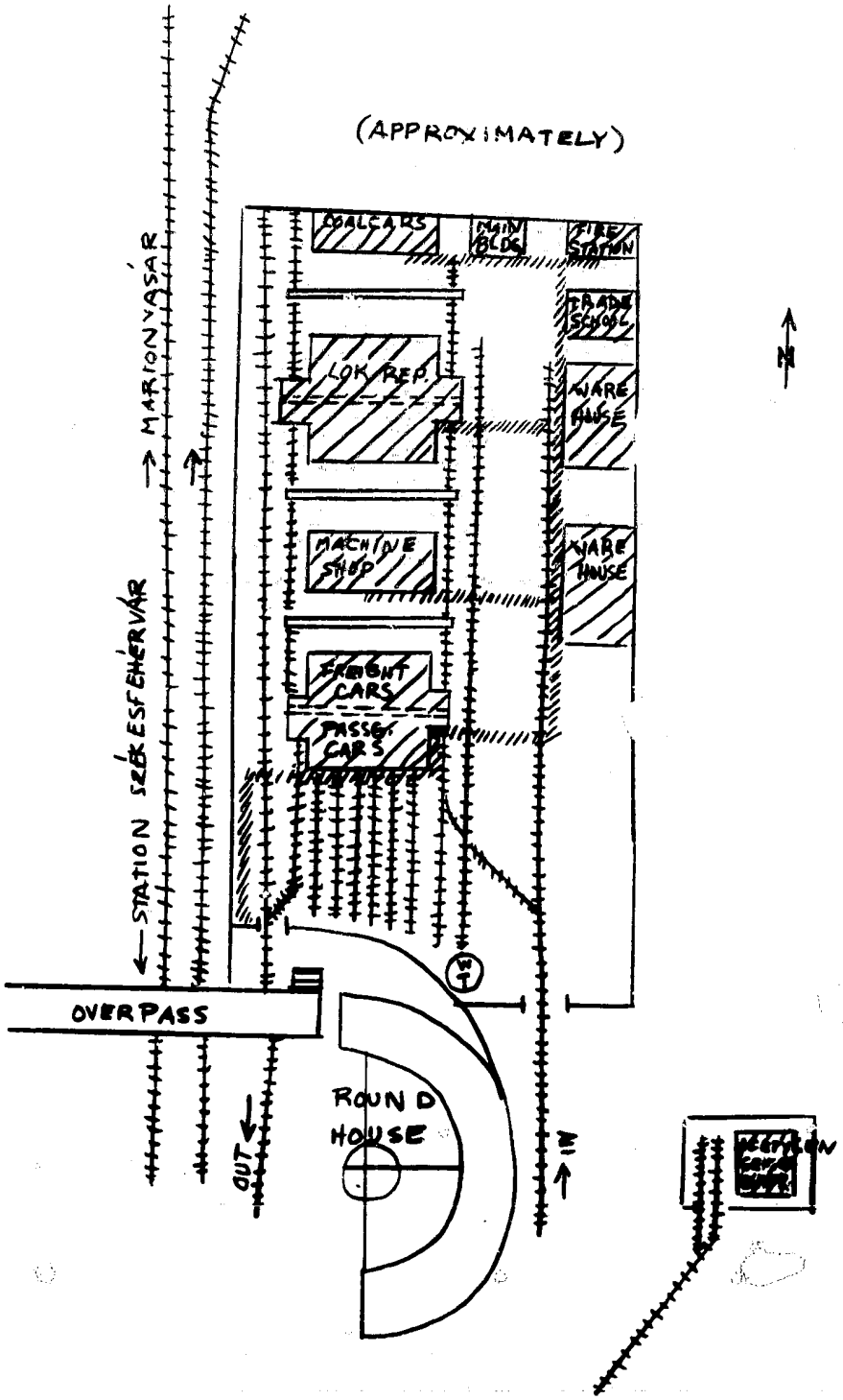
DETAILED DRAWING PERPARED BY SOURCE OF DEBRECEN MAV MUHELY



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